## CLAIMS:

1. Use of 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-ylamino)phenyl]-benzamide of formula I

or a pharmaceutically acceptable salt thereof for the manufacture of a medicament for the treatment of anaplastic thyroid carcinomas.

- 2. The use of 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-yl-amino)phenyl]-benzamide of formula I or a pharmaceutically acceptable salt thereof in the treatment of anaplastic thyroid carcinomas.
- 3. A method of treating humans suffering from anaplastic thyroid carcinoma which comprises administering to a said human in need of such treatment a dose, effective against said disease, of 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-ylamino)phenyl]-benzamide or a pharmaceutically acceptable salt thereof.
- 4. A method according to claim 3 wherein a daily dose of 50 to 600 mg of 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-ylamino)phenyl]-benzamide of formula I is administered to an adult.
- 5. A method according to claim 3 wherein the monomethanesulfonate salt of 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-ylamino)phenyl]-benzamide of formula I is administered.
- 6. A method according to claim 3 which comprises administering a pharmaceutically effective amount of 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-ylamino)phenyl]-

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benzamide of formula I or a pharmaceutically acceptable salt thereof to the human subject once daily for a period exceeding 3 months.

- 7. Use or method according to any of claim 1 to 6 wherein 4-(4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-(4-pyridin-3-yl)pyrimidin-2-ylamino)phenyl]-benzamide of formula I is in mesylate salt form and in the beta crystal form thereof.
- 8. Use or method according to any one of claims 1 to 7 wherein the anaplastic thyroid carcinoma is harboring mutated p53.